

## A320 Alerting Issues – Lateral track or vertical path deviation beyond limits

**1. Initiating Condition:** In RNP approach and similar Next-Gen terminal area operations, the aircraft's failure to follow the centerline of the lateral track and/or vertical path within the required deviation limits (e.g., RNP value for lateral track), due to excess wind, autopilot failure, failure to engage autopilot/mode, or specific FMS/autopilot inability to meet specs

Type	Alert or cue	Threshold for alert or cue to be presented	Confusion regarding alert or cue	Other issues with regard to alert or cue	When alert is inhibited/suppressed or when cue is masked	How alert or cue is terminated
Visual Alerts	None					
Aural Alerts	None					
Tactile Alerts	None					
Visual Cues	On the ND, the lateral path deviation value is displayed (in tenths of NM, with "L" or "R") immediately next to the airplane symbol (the RNP limit value is not displayed on the ND)	RNP limit for the aircraft, crew, and specific approach is manually entered by the crew on the FMGC PROG page		This cue requires scanning the ND (there is no color change or other alert when a deviation limit is exceeded) and also performing effortful comparison between the displayed crosstrack error and the limit value		
	On the ND, the aircraft symbol deviates from the dashed green line representing the flight planned track (lateral deviation)	RNP limit for the aircraft, crew, and specific approach	Detecting lateral track deviation from the aircraft symbol/flight plan line display is ambiguous because display of the deviation depends on the range setting on the ND display			
Aural Cues	None					

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Tactile/Somatic Cues	None					
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#### Expected Pilot Response(s)

- If not in visual contact with the runway, execute a missed approach.
- Hand fly lateral path during missed approach to within RNP limits (including RF leg) until automation can be re-engaged (1000 feet for 737).

#### Possible sources of confusion with regard to pilot response(s)

- The precise condition of exceeding the required limits is not saliently alerted.

#### How does pilot know condition is resolved/recovered?

- Flight path is recovered to within limits, as displayed on ND and FMGC PROG page RNP text display.

#### Issues with regard to multiple concurrent non-normal conditions

- Aircraft making a missed approach in response to this condition may complicate NextGen automated sequencing/metering or traffic separation.